GENERAL ATOMICS
AND AFFILIATED COMPANIES

RIO GRANDE RESOURCES CORPORATION

Rio Grande Resources Corporation controls uranium operations and mineral resources acquired by GA from Chevron Resources in 1991. Included in this acquisition were mines in south Texas and New Mexico. In New Mexico, the Mt. Taylor project, a conventional underground mine that contains the largest uranium resource in the United States, is currently on standby.

Rio Grande Resources properties in south Texas included Palangana, Rhode Ranch and Panna Maria. All these properties have either been successfully reclaimed or are in final stages of reclamation. Due to the variety of operations that occurred on these properties, Rio Grande Resources has developed extensive expertise in reclamation of open-pit and in situ leach mines, as well as mill decommissioning and reclamation.

Uranium Properties
The Mt. Taylor uranium mine is located in northwestern New Mexico about 60 miles (100 km) west of Albuquerque. Uranium was discovered in the Mt. Taylor area in 1968 and delineation drilling identified an ore trend extending nearly 6 miles (10 km). Chevron Corporation began commercial production at Mt. Taylor in 1986, initially shipping the ore to ChevronÕs Panna Maria mill in south Texas for processing. More than 8 million pounds U3O8 (3,080 mtU) were produced from the Mt. Taylor mine before the mine was placed on standby in 1989.

Uranium mineralization in the Mt. Taylor deposit occurs within the Westwater Canyon sandstone of the Jurassic age Morrison Formation and is similar in form to trend-type deposits in the Ambrosia Lake uranium district. The deposit occurs at 3,000 feet (900 m) below the surface. Coffinite is the primary uranium mineral. Ore grades range from 0.15% to over 2.0% U3O8, and averaged 0.5% U3O8 during the production period. The Mt. Taylor mine contains an in-place resource of over 100 million pounds U3O8 (38,500 mtU). Presently, the deposit is being evaluated for development as an in situ leach operation.

Reclamation
Rio Grande Resources has been involved in reclaiming numerous properties in the South Texas uranium district, developing an extensive background in groundwater restoration, surface rehabilitation, and tailings disposal and monitoring.

At the Palangana property, in Duval County about 100 miles (160 km) south of San Antonio, Rio Grande reclaimed an in situ leach well field and recovery plant. Beginning in the late 1960s Palangana became, essentially, a test site for in situ leaching, a methodology then in the early stages of development. With Union Carbide as the operator, the project passed through various stages of pilot testing using various leaching solutions and flow techniques, as well as development and operation under multiple testing scenarios. Ultimately, the project was shut down in 1979, after producing only 314,000 pounds U3O8 (120 mtU) of the 5.6 million pound uranium resource (2,150 mtU) identified on the property. Restoration of the groundwater aquifer at Palangana was a complex process due to the history of chemicals used and the characteristics of the geologic formation. Final release from the State of all permits was achieved in 1999. The Panna Maria mill, with a design capacity of 2,500 tons (2,270 tonnes) per day, was completed by Chevron in 1979. Located 45 miles (75 km) southeast of San Antonio, the mill originally processed ore from the Panna Maria open pit mines. When mine reserves were exhausted in 1985, the mill was revamped to process ore from the Mt. Taylor deposit in New Mexico and, later, ore from the Rhode Ranch mine. After processing the last Rhode Ranch ore, Rio Grande Resources demolished the plant in 1992. Working with both the Texas Department of Health and the Nuclear Regulatory Commission, Rio Grande Resources successfully decommissioned, decontaminated and reclaimed the plant site, more than 290 acres (117 hectares) of holding ponds, and tailings from the mill operations.

Rio Grande also reclaimed two open-pit uranium mines, Rhode Ranch and Jack Pump. The Rhode Ranch mine was closed in 1991 after producing nearly 6.7 million pounds U3O8 (2,580 mtU). Mine reclamation at Rhode Ranch commenced in 1992 and was successfully completed in 1998 when the Texas Railroad Commission released the property from bonding. Rio Grande successfully completed the Extended Responsibility Period for the Jack Pump mine in 1999 and applied for bond release and permit termination, the final steps in approving the reclamation work.

Received by NM
Environment Dept.
January 30, 1995

ENVIRONMENTAL SITE ASSESSMENT

Mt. Taylor Uranium Mine Operation

RIO GRANDE RESOURCES CORPORATION

JUNE, 1994

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RIO GRANDE RESOURCES CORPORATION

Environmental
Site Assessment for Mt. Taylor Mine

This site assessment is being submitted pursuant to the New Mexico Mining Act, which became law in 1993; however, it is submitted only to the extent that Mt. Taylor Mine's activities and/or commodities are not excluded from the definitions of "mining", "mineral", another definition of Section 69-36-3, or any other provision of the 1993 New Mexico Mining Act.

INTRODUCTION

The information and data contained in this document is compiled partly from various reports written by the mine staff and its consultants starting in 1974 to the present. These reports will be acknowledged throughout as the information and data is used. One of the environmental reports utilized herein requires special mention since it is the baseline environmental study made prior to development work of the Mt. Taylor Mine ("Mine"), which began in 1974. This report is entitled *"An Environmental Baseline Study of the Mount Taylor Project Area of New Mexico"*, and prepared by the New Mexico Environmental Institute ("NMEI"), dated in 1974, currently known as the New Mexico Institute of Mining and Technology ("Baseline Study"). It is currently intended that portions or all of the Baseline Study, and perhaps other studies, will be included as a part of the upcoming Permit Application, which will be submitted on or before December 31, 1994, in accordance with the requirements of the 1993 New Mexico Mining Act.

The Mine is located in Section 24, Township 13 North, Range 8 West, N.M.P.M., Cibola County, New Mexico, and is near the Village of San Mateo as shown on Figure I.

Large-scale pumping of water from wells at depths of approximately 3,000 feet began in the mid-1970's. These activities served to de-pressurize ground water to facilitate shaft sinking, as well as develop water for other uses relating to the mining and benefication of the uranium. After excavation of the two 3,300 foot shafts during a five year period, Gulf Minerals first produced uranium ore from the Mine in 1979. Production continued until September 30, 1982, when the market price for uranium fell dramatically, resulting in the temporary cessation of production by Gulf Minerals. Mine pumps continued pumping Mine water during this shut down period. The Mine was reopened in October 1985, after Gulf Minerals was acquired by Chevron Resources Company. This second production period was continuous until January 1990, when the Mine was again put on standby because of surplus uranium imports, but the Mine dewatering was again continued. After forecasters predicted the uranium market price would stay depressed beyond the year 2000, Chevron eventually pulled the pumps from the Mine in June of 1990 to save long-term pumping costs. It is fully intended that the Mine will be put back in operation as soon as economic conditions permit.

Rio Grande Resources Corporation ("RGR") purchased the Mine from Chevron Resources Company effective August 1, 1991, and now controls approximately 9,800 mineral acres. In addition, RGR owns or controls approximately 7,500 surface acres in the vicinity of or overlaying its mineral acreage. RGR's acreage ownership may change in the future as it responds to the new mining legislation, anticipated to be published in late 1994. All appropriate State agencies will be advised of any significant changes to RGR's mineral or surface acreage positions to the extent required by the 1993 New Mexico Mining Act.

Previous owners have mined approximately 675,085 tons of ore and approximately 698,000 tons of waste out of the Mine. The most recent Mine map available to RGR is shown in Figure II. Now that the Mine is flooded, considerable costs will be incurred to get the Mine back into production; however, in the event market conditions improve sooner than expected, plans for opening the Mine are already being considered to allow mining and extraction of the remaining uranium ore reserves.

ENVIRONMENTAL PERMITS

RGR has two Federal and five New Mexico environmental permits relating to the Mine. These permits are listed below with the renewal dates of each. The seven permits will be briefly described and are also submitted as convenient references, unless otherwise noted.

PERMIT	PURPOSE	EXPIRES
FEDERAL:		
NPDES NM 0028100	Mine Water Discharge	July 17, 1998
NPDES General Stormwater	Stormwater Discharge of Industrial Plants	July 17, 1998
STATE OF NEW MEXICO:		
Discharge No. DP-61	Mine Water Discharge & Surface Retention	** Mar. 30, 1994
Discharge DP-117 *(Inactive)*	Mill Tailings Discharge	Sept. 5, 1996
Radioactive Material License No. DM 043-02	Use of Radioactive Materials for Laboratories, etc.	Dec. 31, 1995
Radioactive Material License No. IX 044-01	Ion-Exchange Plant Operation	Oct. 31, 1994
Solid Waste Landfill for Mine and Mill *(no number assigned)*	Mine Waste and Landfill Materials	No Expiration

** *Verbal Renewal Received June 21, 1994.*

Federal Environmental Protection Agency - NPDES NM0028100:

This EPA permit was last renewed in 1993 for a period of five years. It authorized discharge of treated Mine water commingled with liquid waste water (sewage treatment plant) into an unnamed arroyo, located approximately four and one-half miles North of the Mine (see Figure III). A 24-inch pipeline carries the discharged water and allows routine sampling at a station near the Mine. When the Mine is operating, the volume of water discharged averages about 4,200 gallons per minute (GPM), but can discharge up to 10,000 GPM under certain conditions. When the pumps were pulled from the Mine, this discharge activity was placed on standby June 25, 1990, along with the sewage treatment facilities. The sewage treatment plant was converted to a septic tank and leach field system after approval was obtained from the office of the New Mexico Environmental Department. RGR has since submitted Monthly Discharge Reports to the EPA; and, while there have been no discharge volumes or sample analyses to report since June 1990, the EPA permit is still active.

EPA-NPDES General Permit for Stormwater Discharges Associated with Industrial Activity:

This EPA permit authorizes stormwater discharges from a small number of non-point sources. A Stormwater Pollution Prevention Plan has been implemented by RGR to reduce stormwater pollution as much as practical by utilizing best management practices. As required by EPA regulations; a copy of this plan is available for review at the Mine; however, it has not been included due to its size.

New Mexico Discharge Permit No. DP - 61:

This permit gives State authorization to store water on the surface, treat the surface and Mine water, and to discharge it as necessary to operate the Mine. The water treatment system contains eight lagoons for settling solids and for barium chloride treatment (barium-radium-sulfate co-precipitation) to reduce radium content of the Mine discharge water. The water treatment system also includes an ion-exchange plant which is described below. (See Figure IV for a diagram of the water treatment system.)

New Mexico Uranium Mill Discharge Permit No. NM-DP-117:

This permit was to be activated upon construction of a uranium mill near the Mine. Plans for mill construction were not carried out due to the lower uranium market prices existing since the issuance of the permit. This permit continues to be renewed by RGR for availability when a uranium mill is licensed and made operational. There are no reporting requirements on this permit at present.

New Mexico Radioactive Material License No. NM-DM043-02:

This license authorizes certain radioactive liquids and certain sealed sources to be stored and used in the laboratories at the Mine. The sources are used to calibrate source counting instruments, in density gauges for checking soil compaction, in density gauges to control slurry density in pipelines, and in chemical analysis of radionuclides in water and soil samples. This license currently authorizes the purchase and storage of 15 radioactive sources at the Mine.

New Mexico Uranium Ion Exchange Plant Permit No. NM-IX044-01:

This uranium ion exchange plant was constructed in 1979 and early 1980, to allow capture of uranium from the Mine discharge water. The ion exchange plant serves the dual function of enabling compliance with the terms of applicable discharge permits and allowing extraction of uranium from Mine water when economics permit. This ion exchange unit has not been placed on stream because of the decline in uranium prices; however, the plant was tested for two weeks in 1980 to confirm that the equipment operated properly. This permit was last renewed in 1989, and includes reclamation and remediation plans for the Ion Exchange Plant and all eight lagoons in the water treatment system. This reclamation plan was also submitted to the New Mexico Environmental Department for approval as part of the New Mexico Discharge Permit No. DP-61.

Solid Waste Permits

The Mine currently utilizes an 11.5 acre Waste Pile within the fenced area of the Mine to dispose of its waste rock and other landfill material (See Figure V). However, RGR has a Solid Waste Permit for future use when the current Waste Pile has been filled to its design limits. The Solid Waste Permit acreage was registered in 1980 by Gulf Minerals and covers 25 acres North of Marquez Canyon in Section 24.

At the same time, Gulf Minerals also made application and received a registration notice for a solid waste landfill with a design limit of approximately five acres, which was to be used for a proposed uranium mill site. Although the registration of this landfill is still in effect, it has never been put to use.

MT. TAYLOR PERMIT AREA

The Mine is located in Cibola County 23 miles Northeast of the Village of Milan, New Mexico, on the West flank of Mt. Taylor, at an elevation of 7,325 feet above sea level. The active Mine property contains 182 acres which is secured by fencing and restricted access. In addition to the active Mine area, RGR will initially consider the designated permit area to include a total of 4,000 acres, more or less, as described below and illustrated on Figure III.

PROPOSED PERMIT AREA

T-12-N, R-7-W, N.M.P.M. :		
Section 5:	All	640 acres
T-13-N, R-7-W, N.M.P.M. :		
Section 18:	S/2	320 acres
Section 19:	All	640 acres
Section 29:	W/2	320 acres
Section 30:	All	640 acres
Section 31:	N/2 and SE/4	480 acres
Section 32:	NW/4 and S/2	480 acres
T-13-N, R-8-W, N.M.P.M. :		
Section 24:	E/2	320 acres
Section 25:	NE/4	160 acres
TOTAL PROPOSED PERMIT ACRES:		***4,000 acres***

This surface land area will overlay all of the planned underground mining area as near as can be predicted at this time. However, RGR reserves the right to modify or reduce the total permit area acreage if the Mining Commission changes the application fee and/or annual fee structures that were included in the proposed Mining Regulations as of June 30, 1994. RGR will advise of such modification or reduction via the permit application submittal, due on or before December 31, 1994.

The Mine's active land disturbance within the secured and fenced area is presented on Figure V, which also shows structures, impoundments, and other features currently on the Mine site. In regard to disturbance outside of the security fencing, RGR has improved one access road to the Mine and one access road to adjacent claims, but has not been involved in other exploration work on other property which it owns in the vicinity of the Mine. The multiple drill sites and roads to the North, South, and East of the Mine, which date back to 1960 and the early 1970's, were developed by other companies prior to ownership of the minerals and/or surface by RGR. Many of these drill sites and roads were constructed by unknown companies.

GEOLOGIC SUMMARY OF THE MINE AREA

The geologic realm was very adequately described by the NMEI in the Baseline Study prepared in 1974. The two Mine shafts were sunk approximately 3,300 feet deep and bottomed in the Recapture Creek Sandstone member of the Morrison Formation. This member grades laterally into the Westwater member above. The Recapture Creek is composed of red-brown, chocolate-brown, light green and white interstratified silt stone, shale, and fine sandstone. Sandstone predominates in the upper part of the member where the beds are five to ten feet thick. Locally, the Recapture Creek contains conglomeratic beds and thin, mottled, red and green limestone *(NMEI, 1974)*. The stratigraphic layers above the Recapture Creek are described in ascending order and a stratigraphic illustration has also been included to assist in evaluation of the Baseline Study and the following geologic discussion.

RIO GRANDE RESOURCES CORPORATION

SITE ASSESSMENT FOR MT. TAYLOR MINE

SYSTEM	FORMATION	MEMBER	LITHOLOGY	ELEVATION
CRETACEOUS	MENEFEE	MENEFEE SANDSTONE & SHALE		(767) 7340-6573
	PT. LOOKOUT	POINT LOOKOUT SANDSTONE		(115) 6573-6458
	CREVASSE CANYON	SATAN TOUNGE SHALE		(23) 6458-6435
		LOWER HOSTA SANDSTONE		(81) 6435-6354
		GIBSON COAL		(165) 6354-6189
		DALTON SANDSTONE		(84) 6189-6105
		MULATTO TOUNGE OF MANCOS SHALE		(395) 6105-5710
		STRAY SS		(8) 5710-5702
		DILCO COAL		(92) 5702-5610
	GALLUP	UPPER GALLUP SS		(95) 5610-5515
		GALLUP SHALE		(130) 5515-5385
		LOWER GALLUP SS		(40) 5385-5345
	MANCOS	MAIN BODY OF MANCOS SHALE		(536) 5345-4809
		TRES HERMANOS SS		(326) 4809-4483
	DAKOTA	DAKOTA SS		(58) 4483-4425
JURASSIC	MORRISON	BRUSHY BASIN MUDSTONE		(80) 4425-4345
		UPPER WESTWATER SS		(123) 4345-4222
		GREEN SHALE		(12) 4222-4210
		LOWER WESTWATER SS		(64) 4210-4146
		RECAPTURE CREEK SS & SH		(79) 4146-4067
		BLUFF SS		(223) 4067-3844

ILLUSTRATION OF STRATIGRAPHIC SECTIONS

Westwater Canyon Member of the Morrison Formation

The Westwater Canyon member is a light-gray and yellow-brown, fine to coarse, poorly sorted feldspathic sandstone. It is locally conglomeratic, containing clay, chert pebbles, and silicified wood fragments. Its sandstone beds vary from massive parallel-bedding to irregular cross-bedding. It is also quite variable in thickness owing to lensing and vertical gradations into both the Brushy Basin and Recapture Creek members *(NMEI, 1974).*

The lower sandstone unit is about 64 feet thick, while the upper sandstone unit is approximately 123 feet thick in the Mine shaft area. These two sandstone units, which carry the uranium ore reserves of the Mine, are most often separated by a green shale.

Brushy Basin Member of the Morrison Formation

The Brushy Basin member conformably overlies and interfingers with the Westwater Canyon member. It resembles the Recapture member and consists of greenish-grey and reddish-brown, gypsiferous and bentonitic mudstone with many sandstone lenses, channel fills, sandy zones, and a few thin limestone beds. In the Mine shaft area, this unit measures 80 feet thick. The sandstone in this member, one of which is the Poison Canyon, contains many uranium ore deposits in New Mexico *(NMEI, 1974).*

Dakota Sandstone

The Dakota Sandstone unconformable overlies the Brushy Basin member of the Morrison Formation. Of Cretaceous Age, it contains yellowish-grey massive and well-cemented quartz sandstone, with local conglomerate lenses and impure coal. The Lower Dakota is commonly cross-bedded, coarse, more conglomeratic, and contains more carbonaceous shale than the upper portion; while the Upper Dakota is composed of evenly bedded, clean, rounded, silica-cemented quartz grains. The Dakota is approximately 58 feet thick and carries small uranium deposits near its base in other Ambrosia Lake sites; while it is only slightly mineralized in the Mine area *(NMEI, 1974).*

Mancos Shale

The Mancos Shale is composed chiefly of dark-gray, calcareous, marine clay shale. The lower part of the unit generally contains three fossiliferous sandstone beds, each of which have thicknesses of 118 feet in the lower unit, 45 feet in the middle unit, and 72 feet in the upper unit. These units are generally yellowish-brown to buff and medium to fine grained sandstone *(NMEI, 1974).*

Gallup Sandstone

The Gallup Sandstone interfingers with and conformably overlies the Mancos Shale and is the lowermost member of the Mesaverde group. This member consists of two separate units. Typically the upper unit consists of pale reddish-brown and light-grey, fine to medium grained arkosic sandstone with a thickness of 88 feet, while the lower unit is grey, fossiliferous, fine to coarse grained sandstone, only 25 feet thick. These two sandstones are separated by 130 feet of dark gray shale, considered to be a tongue of the Mancos Shale *(NMEI 1974)*.

Crevasse Canyon Formation

The Crevasse Canyon Formation contains three major members, in ascending order: Dilco Coal, Dalton Sandstone, and Gibson Coal. The Dilco Coal member is composed of 92 feet of interbedded, light-colored sandstone, silt stone, carbonaceous shale, and several lenticular coal beds. The Mulatto tongue of the Mancos Shale is a shale wedge that separates the Dilco Coal and Dalton Sandstone and includes thin, discontinuous sandstone bodies, sometimes referred to as the Stray Sandstone member. The Dalton member is generally a clean, white to buff, massive, fine to medium grained sandstone, and is 84 feet thick in the Mine shaft. The Gibson Coal member is composed of interbedded sandstone, clay, shale, and coal, which is 165 feet thick locally *(NMEI 1974)*.

Hosta Tongue Sandstone of the Crevasse Canyon Formation

The Hosta Tongue Sandstone unit is considered upper Crevasse Canyon in this area. It is light gray, medium to fine grained, with a thickness of 115 feet. This unit is overlaid by another Mancos Shale wedge called the Satan Tongue. This Mancos Shale bed consists of dark gray, sandy shale with some interbedded pale yellowish brown, fine grained silty sandstone, and silt stone *(M.H. Alief, et al 1985)*.

Point Lookout Sandstone

The Point Lookout Sandstone is approximately 115 feet thick. It is composed of fine, well-sorted, sub-angular to sub-rounded, quartz and feldspar *(NMEI, 1974)*. The sand usually is well lithified and contains a matrix of silt and clay. The Point Lookout aquifer provides the domestic water supply for both the Mine and the Village of San Mateo.

Menefee Formation

The Menefee Formation is the uppermost geologic unit present at the Mine. It forms uneven slopes around the Mine and near the Village of San Mateo. The formation is composed of interbedded, pale yellowish-brown silt stone, fine to medium grained sandstone, gray shale, carbonaceous shale, and thin coal beds. Its thickness at the Mine is approximately 767 feet, with both the service and production shafts being collared in this formation *(NMEI, 1974)*.

Quaternary Deposits

Rocks of Quaternary age exposed in the area consist of unconsolidated talus, alluvial and eolian sediments. Talus and landslide, black lava blocks cover rather extensive areas on the slopes adjacent to the high basalt-covered mesas to the South, Southwest and East of the Mine. Clay, silt, sand, and gravel alluvial lenses underlie the valleys, as well as the lower topographic slopes *(NMEI, 1974)*.

SURFACE AND GROUND WATER HYDROLOGY

The Baseline Study includes an in-depth description of the surface and ground water hydrology around the Mine area. A very brief overview is provided here to allow analysis of the Mine operation's impact to both surface and ground water.

Surface Water Flows

There are two main surface drainage systems which collect both spring water and stormwater run-off in the vicinity of the Mine. Most predominate surface flow is the San Mateo Creek, located one-half mile South of the Mine. The perennial stream is fed with numerous springs in the San Mateo Canyon area, but disappears into the stream bed approximately two miles beyond the Village of San Mateo. During Spring's peak run-off and heavy rain storms, the flow will extend many miles down the established San Mateo Creek bed, until it commingles with the Rio San Jose perennial flow.

The second main drainage system is the Marquez Canyon ephemeral steam, located immediately North of the Mine. This deeply incised stream bed collects water during the infrequent heavy rain storms, but otherwise is dry throughout the year. Low-flow springs are located at higher elevations feeding this drainage, but their total flow has never been large enough to identify downstream at the Mine's elevation.

Impact to Surface Water

The development of the Mine began in 1971, with the start of production in 1979. From 1979 through 1993, the Mine operated eight years out of the possible fourteen year period. During those eight years, the Mine was in a standby mode for three years, from 1982 until 1985, and standby was again commenced in January 1990; however, water use, treatment and water discharge was continuous from initial production until June 25, 1990, when the Mine pumps were temporarily pulled. Standby mode will continue until economic market conditions allow production to resume.

During development of the Mine, various staff and contract engineers designed the infrastructure and surface drainage systems using principles of best management practices to prevent unnecessary impact to surface water at the Mine, as well as off-site. Major surface diversion ditches were constructed to collect water, thereby keeping Mine site run-off to a minimum. Any stormwater originating directly on the Mine site area, which may have been contaminated, was channeled into a below-ground stormwater collection system and passed into the efficient water treatment system before being discharged and pumped off-site. In addition to this overall design to reduce environmental impacts to a minimum, the Mine site was also securely fenced to protect the general public, as well as the wildlife common in the area.

After treatment and use, unconsumed Mine water was ultimately discharged into the San Lucas Canyon to the North, through a four and one-half mile pipeline. This 24-inch pipeline was laid on private land, except for approximately a three-quarter mile portion leased from the Federal Forest Lands. Since 1978, the water has been discharged into the San Lucas Canyon, normally a ephemeral stream, and has been a source of water for both domestic animals and wildlife. In addition, the local ranchers have utilized the discharged water to accomplish irrigation in the area. When the Mine is operating, the discharge water flows Northward from the San Lucas Canyon and disappears approximately 22 miles from the point of discharge after commingling with the San Miquel Creek drainage system; however, no Mine water has been discharged since June 25, 1990.

During a radiological study, which was performed as part of the pre-operational baseline survey for the proposed mill, two sediment samples were taken by Alara, Inc. in 1980 near the point of discharge for the 24-inch pipeline. The results of these samples are shown on Table "A". Elevated uranium, radium 226, and thorium 230 values were evident in one of the samples, while the second sample taken at the same location, showed only slight anomalies for the three parameters. These sample results leave some questions regarding the accuracy of the laboratory performance.

It is clear that the surface water flows immediately North and South of the Mine. The San Mateo Creek and the Marquez Canyon Stream are directly associated with the recharge of ground water in alluvial channels on the Western slope of local mesas. Therefore, ground water and stream flow, if any, are believed to be separate from the underlying aquifer sandstone units of the Mine. There is no evidence that these local surface flows have been directly impacted by the

Mine's operation *(Geohydrology Associates, Inc., 1994. The Geohydrology Associates, Inc. report was commissioned by RGR to document and update its understanding of the hydrology that exists at the Mine.)*

Ground Water

There are a number of subsurface aquifers which were intersected by the two shafts, and are listed by NMEI in the Baseline Study. Although there is ground water flow at the alluvial and bedrock contact and shallow low-volume aquifers in the Upper Menefee, the first aquifer capable of sustaining a potable supply of water is the Lower Menefee, at a depth of approximately 500 feet below the surface. This sandstone unit was reached during shaft development work after mining through shale and sandy shale sequences in the Upper Menefee. The possibility of any seepage water reaching the Lower Menefee aquifer is very unlikely.

The Village of San Mateo and the Mine both have wells reaching approximately 650 feet to the Point Lookout Sandstone, which produces potable water. The quality of water is very good and the aquifer has a large flow potential. The Mine began using this water in 1972, whereas the village's water well was drilled in 1976 by Gulf Minerals and serves approximately 200 residents.

The Baseline Study includes a list of water wells, most of which are clustered in and around San Mateo. Six wells (three hand-dug) are in the alluvium less than 100 feet deep and nine wells produce from the Upper Menefee Formation from 120 feet to 336 feet deep. Some of these wells are currently being used for watering livestock, but a number of them were plugged off when the Point Lookout water well was drilled for village use by Gulf Minerals. The water chemistry of many of these wells were also included in the Baseline Study.

Impact to Ground Water

Monitoring wells installed at the Mine indicate that the low-volume alluvium-bedrock contact varies in depth from approximately 40 to 60 feet. This contact flow is minimal, but it serves as a point of detection for any possible seepage from the treatment lagoons and run-off collection ponds. Since sampling began in 1979, as indicated by Tables "B", "C", and "D" showing water analyses for 1979 through June of 1990, there has been no indication that the chemistry of this underground flow has changed. These tables do vary somewhat due to outside laboratory performances through the years; however, the importance of these tables is the demonstration that there is no chemical trend indicating the occurrence of contamination, either from the lagoons or from the Ore Stockpile Area's collection basin.

Likewise, sample results of the Point Lookout aquifer, dating from 1981 to April 1994, are included in Table "E". The analytical results of this deep water source also show no evidence that aquifer contamination has occurred.

The Westwater member of the Morrison Formation, where the uranium reserves were deposited, was mined from 1979 to January 1990, as described above. During this period, the volume pumped from the Westwater averaged about 2,600 to 2,800 GPM. The water chemistry originally contained elevated levels of dissolved radium 226 concentrates because of the large uranium deposit. Table "F" shows a sample of the typical chemistry of this in-place water which was collected during October 1977. Other wells showed similar chemistry before the two development shafts reached the elevation of the Westwater Sandstone at 3,100 feet below the surface.

During the mining period, the water chemistry changed to some small degree, due to mining materials used and oxidation of the primary ore deposit. As mining continued, analysis of the water showed higher levels of certain parameters. Table "G" reflects the water chemistry of the Mine discharge water in 1980 and 1990, as reported to the New Mexico Environmental Department. Selenium, uranium, and molybdenum were the only elements showing appreciable change; however, although radium levels actually increased, they were reduced to below permitted discharge limits by means of water treatment (barium chloride addition). Operating controls by management were also effective in preventing other contaminates, such as diesel fuel, waste oil and cleaning solvents, from entering the water being discharged.

AIR QUALITY

Mining operations involving uranium production can produce radon gas and other radionuclides, causing radiation levels in the air to increase. At the Mine, monitoring of this radon gas was a continuing effort to assure management and the public that the radon levels were not a serious threat. Underground air samples were taken weekly to assure radon amounts in the work place were kept at the lowest possible levels. Radon exposure records of all underground employees were sent to the Federal agency, Mine Safety and Health Administration, on a quarterly basis. The employee radon exposure limit in effect was four working levels per year, and this level was never exceeded.

Radon levels at the surface were also sampled, but less frequently. The background levels for radon found at the Mine site by NMEI in 1972 and 1973 averaged about 0.20 picocurrie per liter (pCi/l), but a high of 0.90 pCi/l and a low of 0.008 pCi/l was recorded in the Baseline Study, as indicated in Table "H".

Impact to Air Quality

Prior owners of the Mine reported a number of studies for radon gas levels throughout the mining period and were continued after the Mine was placed on standby. One of these studies was performed by Alara, Inc. in 1980 and 1981. These results are shown on Table "I" and refer to sample site locations placed North of the Mine, at the San Mateo School, and two occupied residences in the Village of San Mateo. Test results indicate no detectable increase of radon gas levels at these local sample sites while the Mine was operating in 1980 and 1981. A more recent study, performed at the Mine's perimeter fence and the San Mateo School, show a very small increase in the radon levels. These test results are reflected on Table "J" *(Chevron / RGR Staff, 1989 - 1992).*

As part of the environmental effort to reduce the potential health and safety hazards for the public and Mine employees, Mine management endeavored to stop wind blown particulates with either chemical suppressants or treated Mine water. This effort was part of the controls to reduce the radiation impact to as low as reasonably achievable. Daily watering of roads and Mine yards were a standard practice throughout the active mining operations. During the latest standby period, a dirt cover was also placed on the low-grade ore mound to eliminate blowing dust. In addition, the dry sediment in the lagoons has been covered to prevent dust removal of radioactive material. This dirt covering has encouraged vegetation to develop, which created a habitat for local wildlife, such as rodents, rabbits, and birds.

WILDLIFE AND WILDLIFE HABITAT

The Baseline Study performed in 1972 and 1973, very adequately covers the wildlife inventories. In this study, NMEI reported wildlife density and distribution was less than other comparable regions. Three vegetation communities were studied for diversity, density and distribution of fauna species. The selected areas were grassland, pinyon-juniper forest, and ponderosa pine forest. In these selected areas the herb, bird, and mammal species were inventoried, but there was no effort to cover the invertebrate species, except for aquatic types. A copy of the plant and wildlife inventories are included in the Appendix. The Baseline Study states that there were no endangered or rare wildlife species inventoried.

Impact to Wildlife

The impact to wildlife and wildlife habitat has not been severe to the fauna as inventoried by NMEI, except for some species which moved out of the 145 acres of land disturbed by mining operations. This disturbed land will be reclaimed as Mine operations permit or after mining operations have concluded. Outside the fenced area, rabbits, prairie dogs, field mice, chipmunks, ground squirrels, coyotes, and owls are visible almost daily and, during certain times of the year, elk, skunks, and birds of numerous descriptions are also sighted in the immediate vicinity. Although it would be impossible to determine the present day density of the fauna without further scientific study, this seems to evidence that the wildlife density has not been adversely effected by the Mine's operations. In fact, Mr. Greg Medina, of the New Mexico Game and Fish Department, has advised verbally that the area's elk density has been increasing the past several years.

NMEI reported the lower elevation grassland and some higher elevation vegetation had been severely over-grazed by local livestock, which probably accounts for the Baseline Study area being lower in wildlife density than other similar semi-arid regions. However, NMEI also indicated that other factors may have contributed to the lower animal inventories, such as the many years of logging, along with the encroachment of people.

DESCRIPTION AND IMPACT OF MINING UNITS

Waste Pile

The Mine's Waste Pile covers an area of approximately 11.5 acres. This Waste Pile contains barren rock from the two deep shafts, barren rock excavated from the underground workings, and very low-grade radioactive mineralized rock. The cut-off grade for waste rock was below 0.03% uranium and those truckloads of waste rock, averaging 0.03% or above, were placed in the low-grade ore mound of the Ore Stockpile Area which is discussed below.

Mine records show that 576,000 tons of barren rock and 122,000 tons of slightly mineralized rock (0.02% uranium) was placed in the Waste Pile. The West slope of the Waste Pile is approximately 1:1, consisting of two 35-foot benches separated by a 20-foot wide terrace. However, a part of the Waste Pile is without the terrace bench, making the height of the one bench approximately 60-feet high. About half of this 1:1 slope has been stabilized with vegetation, which has been very successful in preventing erosion. The other half of the Waste Pile is currently approaching a size to allow the stabilization program to work economically.

Stormwater run-off from the Waste Pile is collected in an impoundment constructed specifically for collection of transported sediment. Water collected in this impoundment is evaporated, leaving any sediments behind. Because the Waste Pile is primarily barren rock, the radioactivity of the particulate which remains is very low. Seepage from the stormwater impoundment has been reduced because its construction consisted of compacted native soils.

Hydrologic Impact of the Waste Pile

In order to monitor possible seepage of surface water down through the Waste Pile, two monitor wells were placed adjacent to the Waste Pile in 1982 to gather water sample data at the alluvial/bedrock contact. Table "K" reflects the results of the samples analysed since 1982. Since the very beginning, the analytical results indicate an unusual chloride, sulfate and nitrate composition in Monitor Well No. 5. It is believed by RGR's staff that the water from this monitor well may show results of the application of spray fertilizer and mulch, which was applied to a section of the Waste Pile in 1981. If not that, it is possible that some of the drilling mud materials remain in the monitor well and are contributing to contamination in the later samples. In addition, considering the spread of the analytical numbers obtained for chloride, sulfate, and nitrate, it is likely that these values may have been effected by the various sampling techniques used by the technicians as well.

Ore Stockpile Area

Currently the Ore Stockpile Area contains one mound of stored low-grade ore (0.05%), totaling approximately 60,000 tons and covers an area of two acres, more or less. This stored low-grade ore has been covered with about two feet of barren dirt which shows almost no surface radioactivity. The low-grade ore has been covered to prevent the mineralized material from blowing off-site and to establish vegetation. This dirt cover has produced a natural growth of vegetation during a period of two years, and helps prevent erosion by either stormwater or the wind.

Stormwater is collected in an impoundment specifically designed to capture run-off water from all parts of the seven-acre Ore Stockpile Area. The run-off from the Ore Stockpile Area drains into a prepared collection basin for evaporation and containment of any remaining sediments. Periodically during Mining Operations, sediments from this collection basin are shipped to a mill for processing. Currently the collection basin is dry with a minimum amount of sediment. This collection basin is lined with clay, which effectively reduces seepage of any collected water.

Hydrologic Impact of the Ore Stockpile Area

During mining operations, Monitor Wells No. 1, 2, and 3, which are the same wells used to monitor any lagoon seepage, are tested for ground water contaminates on a regular basis. Since the beginning of production in 1979, frequent sampling and analyses give positive indication that the collection basin seepage has not impacted the water flow at the bedrock contact, located approximately 60-feet below the surface. The results of all water samples from each of the three monitor wells are averaged in Table "B", Table "C", and Table "D", respectively.

Lagoon Sediments

Treatment of the Mine water, which totaled 4,200 GPM or more when the Mine was operational, is accomplished with a total of eight lagoons. Lagoons 1, 2, and 3 are in a series for settling out the particulates in the Mine discharge water. A very small amount of flocculent is added to enhance this action. Lagoons 4, 5, and 8 are settling ponds to remove radium 226 from the Mine water, with the addition of barium chloride and a flocculent. The precipitate (made up of barium, radium, and sulfate) settles to the bottom of these three lagoons, which completes the water treatment process. Lagoons 6 and 7 are small treated-water reservoirs (surge ponds) where pumps are installed for transferring water back into the Mine and to San Lucas Canyon for discharge. After liquid waste water is commingled within the 24-inch discharge pipe, the discharge water is sampled by a continuous sampler before it leaves the Mine yard in compliance with State and Federal permits.

Hydrologic Impact of Lagoon Sediments

When the Mine water discharge was discontinued in June of 1990, the lagoons were pumped down to a low level, allowing all of the impoundments to completely dry out in a very short time, with the exception of Lagoon No. 2. Lagoon No. 2 now receives stormwater run-off and currently contains approximately eight-feet of water and will likely continue to have some water year after year.

While the Mine was operating, it was a routine practice to periodically clean the lagoons of sediment permitting all of the lagoon volume to work efficiently in terms of water treatment. After the baffles were removed, each lagoon was isolated and cleaned with a dredge type slurry pump unit. This material was allowed to dry out and was then shipped to a mill for processing. The process of cleaning the lagoons was last completed during October 1987. Consequently, the sediment in the bottom of the ponds is at a very low volume, especially the barium/radium/sulfate sediment in Lagoons 4, 5, and 8.

The remaining sediment at the bottom of these dried up lagoons have some radium, uranium and other uranium daughters which have been precipitated from the Mine water. This fine grained material is caked on the bottom of the lagoons where it is protected for the most part from the winds. In the shallower lagoons, RGR has covered this radioactive material with barren dirt for added assurance against wind distribution of the fines, but also to allow rapid growth of vegetation on the sides and bottoms. Lagoon No. 1 has been completely stripped of sediment with heavy equipment.

When underground development reached the ore body in 1979, monitor wells placed near the lagoons have been periodically sampled to determine if the bedrock water flow has been contaminated with seepage from the lagoons. Monitor Well No. 1, Well No. 2, and Well No. 3 are the wells demonstrating the chemistry in Tables "B", "C", and "D". As stated earlier, there is no evidence that the water sampled in these wells has significantly changed during the 11-years of water treatment.

OPERATING DESIGN LIMITS ON DESIGNATED MINE UNITS

The design limits of the Mine's production units as they now exist after eight years of Mine operation are listed below:

1. Mine water discharge designed volume is 10,000 gallons per minute.
2. Ion exchange unit for uranium recovery from water is 10,000 gallons per minute.
3. Mine waste pile area design limit is 11.5 acres.
4. Ore stockpile area design limit is 6.8 acres.
5. Design limits of water treatment lagoons are as follows:

Lagoon No. 1	44,600 square feet or 1.02 acres
Lagoon No. 2	31,550 square feet or 0.72 acres
Lagoon No. 3	43,100 square feet or 0.99 acres
Lagoon No. 4	68,750 square feet or 1.58 acres
Lagoon No. 5	66,000 square feet or 1.52 acres
Lagoon No. 6	11,100 square feet or 0.25 acres
Lagoon No. 7	10,700 square feet or 0.25 acres
Lagoon No. 8	45,000 square feet or 1.03 acres

6. Design limit of the waste pile stormwater containment is 45,000 square feet or 0.99 acres.
7. Design limit of the ore stockpile decant lagoon is 70,000 square feet or 1.6 acres.

IMPACT OF MINING ON LOCAL COMMUNITIES

The local communities which may have been affected by the Mine operation are San Mateo, Grants and Milan. There has been very little effect on the Village of San Mateo resulting from the termination of all employees during early 1990. Of the 20 or so persons employed at the Mine, most of these acquired work at a nearby coal mine. However, a few were forced to find employment in Arizona or Nevada until other work could be found in the local job market. The village itself has not changed in terms of size or cultural/economic conditions; however, recently village services were improved by constructing a fire-truck station and installation of an expanded potable water distribution system, complete with a new high-volume water storage tank. These improvements were likely financed by grant funding provided by the State of New Mexico. The current population of San Mateo is approximately 200, the same as in 1975.

The City of Grants and the Village of Milan were severely impacted by the termination of all of the regional mining operations in the 1980's. The Mine was the last in the region to shut down in 1990. Many of the families left the area to find employment in Arizona, Nevada, or elsewhere where mining has continued in other commodities. Population for the two communities dropped from 15,186 in 1980 to 10,537 in 1990, according to the Northwest Council of Governments' 1992 publication. It also indicated that growth of the entire Cibola County is predicted to show a gradual increase in population through the year 2010. It is not expected to impact socio-economic conditions of the three communities when the Mine resumes operations, currently anticipated to occur sometime after the year 2000; with the growth employment level anticipated to reach a maximum of 180 to 200 men and women.

The Grants / Milan / San Mateo areas have been favorably impacted recently by the number of new businesses in the area. Two new prisons have been constructed, a third prison is 75 percent complete, and a new cardboard recycling plant is now in a startup mode. Other smaller businesses in the service industry have been developed to work with these new major industries. Consequently, area employment has increased by approximately 500 to 600 new jobs during the past three to four years, with potential for additional opportunities in the future.

CONCLUSION

The Mine began uranium production in 1979 after several years of surface and underground development work. Many difficult technical problems were solved in the past 11 years to allow production rates and mining costs to reach acceptable levels. The high underground working temperature, together with the high volume of water to discharge and treat, were high on the early list of priority items to be managed properly. As was expected, environmental labor and material costs were major items in order to accomplish these goals. Results of these efforts can now be seen in the very small impact to surface and subsurface water, air, and wildlife.

RGR will continue to work with the State agencies, as did previous Mine owners, to protect the public and wildlife through consulting and compliance with Federal and State permits and regulations. The Mine has a world-class economic uranium ore reserve, which will be mined in the future to supply nuclear power plants with necessary fuel. State of the art technical processes, procedures, and modern day environmental principles will play a major role during future development and production of the Mine.

6-30-94/bgh

94NM\Site'Ass.RPT

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RIO GRANDE RESOURCES CORPORATION

SITE ASSESSMENT FOR MT. TAYLOR MINE

RADIONUCLIDE CONCENTRATIONS IN SEDIMENT SAMPLES FROM THE SAN LUCAS CREEK SAMPLED BY ALARA, INC.

SAMPLES COLLECTED JUNE 24, 1980:

VALUES ANALYSED	Sample #1 - Taken Above Discharge Point	Sample #2 - Taken Above Discharge Point	Sample #3 - Taken Below Discharge Point	Sample #4 - Taken Below Discharge Point	MEAN UPSTREAM VALUE
Ra - 226 pCi/g (SD)	1.0 (0.04) *a	1.1 (0.04)	38.0 (1.5)	10.0 (0.4)	1.3 (0.3) *b
Th - 230 pCi/g (SD)	1.8 (0.24) *a	1.7 (0.24)	1.6 (0.22)	7.8 (1.0)	1.6 (0.6) *b
Pb - 210 pCi/g (SD)	0.22 (0.02) *a	0.92 (0.10)	0.55 (0.06)	0.69 (0.08)	1.2 (0.8) *b
Total U308 % Dry Weight	0.0001	0.0006	0.002	0.002	0.0003
U - 238 pCi/g (SD)	0.3	1.7	5.6	5.6	0.8 (0.7) *b

SAMPLES COLLECTED OCT. 13, 1980:

VALUES ANALYSED	Sample #1 - Taken Above Discharge Point	Sample #2 - Taken Above Discharge Point	Sample #3 - Taken Below Discharge Point	Sample #4 - Taken Below Discharge Point	MEAN UPSTREAM VALUE
Ra - 226 pCi/g (SD)	1.6 (0.06)	1.3 (0.05)	5.1 (0.20)	1.1 (0.04)	1.3 (0.3) *b
Th - 230 pCi/g (SD)	2.1 (0.29)	0.66 (0.09)	0.24 (0.03	0.32 (0.04)	1.6 (0.6) *b
Pb - 210 pCi/g (SD)	1.5 (0.17)	2.1 (0.24)	3.1 (0.36)	1.2 (0.14)	1.2 (0.8) *b
Total U308 % Dry Weight	0.0003	0.0001	0.0004	0.0001	0.0003
U - 238 pCi/g (SD)	0.8	0.3	1.1	0.3	0.8 (0.7) *b

* a : *Standard deviations of individual samples are based on counting statistics.*
* b : *Standard deviation of the individual sample mean values.*

NOTE: *The discharge point for the 24-inch pipeline is located on the San Lucas Creek*

see FIGURE III for sample locations

TABLE "A"

94NM\SiteTB-A 6-28-94 bgh

RIO GRANDE RESOURCES CORPORATION

SITE ASSESSMENT FOR MT. TAYLOR MINE

MONITOR WELL NO. 1 :

YEARLY AVERAGE VALUES

YEAR	As	Ba	Cl	F	Pb	Mo	NO3 as N	Se	SO4	TDS	Ra 226	U	PH
1979	<0.020	0.280	25	1.04	<0.020	0.040	3.360	<0.010	434	1123	1.000	0.900	
1980	<0.020	0.080	21	1.06	<0.020	0.040	3.680	<0.010	368	734	0.780		
1981	<0.010	0.080	24	1.67	0.020	0.030	1.120	<0.010	284	834	0.400		
1982	<0.010	0.130	27	1.53	0.003	0.005	2.030	<0.010	200	822	0.600	0.027	
1983	<0.010	0.180	27	1.03	0.003	0.001	1.400	<0.010	240	823	0.100	0.031	
1984	<0.010	<0.100	28	1.15	<0.010	<0.015	2.400	0.013	199	970	<0.100	0.021	7.84
1985	<0.010	<0.100	21	1.25	<0.010	<0.010	1.600	<0.010	251	1040	0.300	0.037	7.80
1986	<0.010	<0.100	26	1.13	<0.010	<0.010	2.250	<0.010	271	1083	0.021	0.021	7.88
1987	<0.030	<0.325	28	0.99	<0.022	<0.028	1.720	<0.020	300	1072	1.225	0.032	7.91
1988	<0.002	0.004	19	0.82	0.011	0.025	0.610	0.007	289	966	0.050	0.023	7.85
1989	<0.001	0.035	18	0.71	0.005	0.013	0.225	0.007	274	884	0.010	0.018	7.86
1990	<0.001	0.035	15	1.10	<0.020	<0.010	<0.010	<0.001	259	854	0.100	0.013	7.85

NOTE: All values are "dissolved" and in mg/l, Radium stated in (pCi/l) and PH is in (Standard Units).

Legend for Values Averaged:

As	*Arsenic*
Ba	*Barium*
Cl	*Chloride*
F	*Fluoride*
Pb	*Lead*
Mo	*Molybdenum*
NO3 as N	*Nitrate as Nitrogen*
Se	*Selenium*
SO4	*Sulfate*
TDS	*Total Dissolved Solids*
Ra 226	*Radium 226*
U	*Uranium*
PH	*PH*

See FIGURE V for location of well

TABLE "B"

RIO GRANDE RESOURCES CORPORATION

SITE ASSESSMENT FOR MT. TAYLOR MINE

MONITOR WELL NO. 2 :

YEARLY AVERAGE VALUES

YEAR	As	Ba	Cl	F	Pb	Mo	NO3 as N	Se	SO4	TDS	Ra 226	U
1979	<0.020	0.480	17	1.690	<0.020	<0.020	1.140	<0.010	383	906	1.150	0.012
1980	<0.020	<0.020	11	0.530	<0.020	0.040	0.640	<0.010	70	480	0.800	
1981	0.010	0.040	25	0.020	0.020	<0.010	0.130	<0.010	28	495	0.600	0.020
1982	<0.010	0.200	22	0.070	<0.001	0.002	<0.100	<0.010	121	563	<0.600	
1983	<0.010	0.150	21	0.070	0.001	0.001	<0.100	0.010	110	735	<0.100	0.002

NOTE: All values above are "dissolved" and in mg/l, Radium stated in (pCi/l) and PH is stated in (Standard Units).

Legend for Values Averaged:

As	*Arsenic*
Ba	*Barium*
Cl	*Chloride*
F	*Fluoride*
Pb	*Lead*
Mo	*Molybdenum*
NO3 as N	*Nitrate as Nitrogen*
Se	*Selenium*
SO4	*Sulfate*
TDS	*Total Dissolved Solids*
Ra 226	*Radium 226*
U	*Uranium*

See FIGURE V for well location

TABLE "C"

94NM\SiteTB-C 6-28-94 bgh

RIO GRANDE RESOURCES CORPORATION

SITE ASSESSMENT FOR MT. TAYLOR MINE

__MONITOR WELL NO. 3 :__

YEARLY AVERAGE VALUES

YEAR	As	Ba	Cl	F	Pb	Mo	NO3 as N	Se	SO4	TDS	Ra 226	U	PH
1981	< 0.01	0.150	82	1.50	0.020	0.030	0.060	< 0.010	382	987	0.400	0.004	
1982	< 0.01	< 0.100	44	1.20	0.002	0.001	1.000	0.020	462	979	0.900	0.006	
1983	< 0.01	0.150	32	0.82	0.002	0.002	0.180	0.020	340	853	< 0.100	0.014	
1984	< 0.01	0.125	29	1.10	< 0.010	< 0.010	< 0.100	0.015	314	934	< 0.100	< 0.010	7.70
1985	< 0.01	< 0.100	27	1.22	< 0.010	< 0.010	< 0.070	< 0.010	377	966	0.525	0.008	7.82
1986	< 0.01	< 0.100	28	1.13	< 0.010	0.060	< 0.100	< 0.010	347	947	< 0.150	< 0.001	8.31
1987	< 0.02	< 0.325	27	1.10	0.026	0.020	< 0.080	< 0.020	324	902	0.020	0.007	8.37
1988	0.00	0.035	29	1.12	0.010	0.010	0.010	0.008	386	898	0.125	0.001	7.91
1989	< 0.0 01	0.030	37	0.94	0.005	0.015	0.125	0.004	359	828	0.375	0.001	7.92
1990	< 0.0 1	0.035	34	1.20	< 0.020	< 0.010	< 0.100	< 0.002	360	769	0.200	< 0.001	7.92

NOTE: *All values are "dissolved" and in mg/l, Radium stated in (pCi/l) and PH is in (Standard Units).*

Legend for Values Averaged:

As	*Arsenic*
Ba	*Barium*
Cl	*Chloride*
F	*Fluoride*
Pb	*Lead*
Mo	*Molybdenum*
NO3 as N	*Nitrate as Nitrogen*
Se	*Selenium*
SO4	*Sulfate*
TDS	*Total Dissolved Solids*
Ra 226	*Radium 226*
U	*Uranium*
PH	*PH*

See FIGURE V for location of well

TABLE "D"

94NM\SiteTB-D 6-28-94 bgh

RIO GRANDE RESOURCES CORPORATION

SITE ASSESSMENT FOR MT. TAYLOR MINE

Point Lookout Sandstone

Potable Water Analyses:

PARAMETERS	11 - 81	8 - 83	7 - 86	7 - 87	8 - 91	4 - 94
Arsenic	< 0.0100	< 0.0100	< 0.0100	< 0.0500		
Barium	0.5300	0.5000	0.4000	2.5500	0.3200	0.3200
Cadmium	< 0.0100	< 0.0100	< 0.0100			
Chromium	< 0.0100	< 0.0010	< 0.0100	< 0.0500		
Fluoride	0.5500	0.5600	0.6600	< 0.0360		
Lead	0.0200	0.0040	< 0.0100	< 0.1330		
T. Mercury	< 0.0010	< 0.0004	< 0.0004	< 0.0002		
Selenium	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0020	U
Silver	< 0.0100	< 0.0100	< 0.0100	< 0.0500		
Uranium		< 0.0020	< 0.0010	< 0.0050	0.0023	U
Nitrate as N		< 0.1000	< 0.1000	< 0.0100		
Radium 226	0.3000	< 0.1000	< 0.1000	< 0.1000	0.5000	0.3000
Molybdenum					0.0100	U
Total Dissolved Solids					184.0000	160.0000
Sulfate					8.0000	2.0000

Note: All values are dissolved, except mercury, and in mg/l, radium is stated in pCi/l) .

TABLE "E"

NM94\SiteTB-E   6-28-94   bgh

RIO GRANDE RESOURCES CORPORATION

SITE ASSESSMENT FOR MT. TAYLOR MINE

Westwater Sandstone

Typical Water Chemistry

WATER PARAMETERS ANALYZED	OCTOBER 1977
Arsenic	< 0.0100
Barium	< 0.5000
Chloride	24.0000
Fluoride	0.7000
Lead	0.0200
Selenium	< 0.0100
Uranium	0.0040
Nitrate as Nitrogen	< 0.2000
Radium 226	24.7000
Molybdenum	< 0.0500
Total Dissolved Solids	630.0000
Sulfate	260.0000

Note: All values are dissolved and stated in mg/l, radium is stated in (pCi/l).

TABLE "F"

NM94\SiteTB-F 6-28-94 bgh

RIO GRANDE RESOURCES CORPORATION

SITE ASSESSMENT FOR MT. TAYLOR MINE

Mine Discharge Water

WATER PARAMETERS ANALYZED	JANUARY 1980	JANUARY 1990
Arsenic	< 0.020	0.0100
Barium	< 0.518	0.120
Chloride	25.000	14.000
Fluoride	0.854	0.900
Lead	< 0.020	0.003
Selenium	< 0.010	0.048
Uranium	0.087	0.588
Nitrate as Nitrogen	0.542	< 0.100
Radium 226	1.370 +/- 0.140	0.700 +/- 0.300
Molybdenum	< 0.020	0.730
Total Dissolved Solids	696.000	742.000
Sulfate	251.000	342.000

Note: All values are dissolved and stated in mg/l, radium is stated in (pCi/l).

See FIGURE III for Discharge Point location

TABLE "G"

NM94\SiteTB-G 6-28-94 bgh

RIO GRANDE RESOURCES CORPORATION

SITE ASSESSMENT FOR MT. TAYLOR MINE

New Mexico Environmental Institute
1974 Report of Surface Radon

Mean Surface Radon Concentrations :

SAMPLING INTERVALS	NO. OF SAMPLES	LOCATIONS		
		FLATS	CANYON	MESA
1972:				
9-28 to 9-29	6	0.19	0.19	0.19
10-12 to 10-13	21	0.18	0.19	0.08
12-17 to 12-18	7	0.59	0.36	0.16
1973:				
2-23 to 2-24	10	0.19	0.16	
5-3 to 5-4 and 5-8 to 5-9	37	0.20	0.17	0.12
6-18 to 6-19	6	0.20	0.18	0.14
7-25 to 7-26 and 7-30 to 8-1	48	0.25	0.18	0.19
AVERAGE: Sept. 1972 to Aug. 1973 (12 Months)		0.23	0.19	0.15
Total Number of Samples	135			
GRAND MEAN FOR ALL STATIONS : 0.19				

Note: All values are stated in pCi/l, the statistical error in counting and sampling is a standard deviation of plus or minus 12 percent.

Locations: *See FIGURE III*

Flats - *Near Marquez Ranch House*
Canyon - *Immediately East of San Mateo*
Mesa - *Pipeyard*

TABLE "H"

94NM\SiteTB-H 6-28-94 bgh

RIO GRANDE RESOURCES CORPORATION

SITE ASSESSMENT FOR MT. TAYLOR MINE

PERMANENT AIR SAMPLING STATIONS
MONITORED BY ALARA, INC.

MONTHLY AVERAGE RADON CONCENTRATIONS:

SAMPLING INTERVALS	Ernest Michael Residence	Lee Ranch Headquarters	San Miguel Ranch	San Mateo School
1980:				
4-18 to 6-3	0.04	0.03	0.07	0.03
6-3 to 7-11	0.04	0.10	0.06	0.05
7-11 to 8-8	0.10	0.08	0.06	0.08
8-8 to 9-4	0.06	0.12	0.06	0.07
9-4 to 10-3	0.07	0.17	0.11	0.10
10-3 to 11-6	0.11	0.25	0.23	0.11
11-6 to 12-9	0.28	0.32	0.38	Note B
1981:				
12-9 to 1-6	0.16	0.42	0.37	0.11
1-6 to 2-3	0.33	0.40	0.29	0.17
2-3 to 3-3	0.14	0.37	0.33	Note A
3-3 to 3-31	0.11	0.20	0.12	Note A 0.13
3-31 to 5-6	0.12	0.20	Note C	0.17

All Values above are stated in pCi/l

NOTES:

A: Chips Left in Field for 2 Months
B: TLD Chip Lost
C: Monitoring Discontinued

See FIGURE III for Sampling Locations

TABLE "I"

94NM\SiteTB-I 6-28-94 bgh

RIO GRANDE RESOURCES CORPORATION

SITE ASSESSMENT FOR MT. TAYLOR MINE

RADON MONITORING

TRAC - ETCH VALUES IN pCi/l

MINE LOCATION	1989 2 QTRS.	1990 4 QTRS.	1991 4 QTRS.	1992 3 QTRS.	AVERAGE ALL YEARS
East Gate	0.50	0.45	0.45	0.40	**0.45**
South Fence Boundary	0.95	0.75	0.55	0.46	**0.67**
West Fence Boundary	0.85	0.73	1.03	0.90	**0.88**
North Fence Boundary	1.05	0.06	0.90	1.03	**0.76**
San Mateo School	0.55	0.33	0.47	0.06	**0.35**
Weather Station	0.50	0.63	0.60	1.60	**0.83**

GRAND MEAN OF ALL STATIONS: 0.66

NOTE: Average for the year is based on collection of quarterly data. The baseline of 0.20 pCi/l was not subtracted from the above numbers.

See FIGURE III for Locations

TABLE "J"

94NM\SiteTB-G 6-25-94 bgh